

Mankins, Shankar and ASM, would not have rendered obvious the alloy composition of claims 15-18.

Applicants respectfully request reconsideration and withdrawal of the rejection.

V. Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further is desirable in order to place this application in better condition for allowance, the Examiner is requested to contact Applicants' representative at the telephone number listed below.

Respectfully submitted,



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Attachments:

Appendix
Petition for Extension of Time
Copy of cited Periodic Table

JAO:HJV/mmc

Date: December 12, 2002

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<p>DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461</p>

APPENDIX

Changes to Specification:

Page 4, lines 18-34:

The compositions investigated also included two-component nickel/tantalum alloys containing tantalum in the range 10-30 weight %. A particularly successful alloy contained 20% tantalum which solidifies at about 1400°C and was found to be an effective seed alloy for the superalloy CMSX4. Tantalum levels of around 30% solidify at 1360°C and are appropriate for casting single crystal components from alloys with melting points of around 1350°C.

These compositions have melting temperatures which are not less than 1300°C and not greater than 1400°C, these temperatures being appropriate for the majority of superalloys. The compositions have the added advantage of narrow solidification ranges, being not greater than 20°C, which reduce the potential for secondary crystal nucleation during solidification.

Changes to Claims:

Claim 6 is canceled.

Claims 19 and 20 are added.

The following is a marked-up version of the amended claim(s):

1. (Amended) An aluminum-free single crystal seed alloy composition comprising:

nickel; and,

in the proportion of 5 to 50 weight, % a further metal selected from the Transition Series of elements in Period VI of the Periodic Table of elements.

10. (Amended) An aluminum-free single crystal seed alloy composition comprising:

nickel; and,

in the proportion of 5 to 50 weight, % a further metal selected from the Transition Series of elements in Period VI of the Periodic Table of elements,

wherein the alloy composition has a solidification temperature which is not less than 1300°C and not greater than 1400°C, and a solidification temperature range which is not greater than 20°C.

13. (Amended) An aluminum-free single crystal seed alloy composition consisting essentially of:

nickel; and,

~~tungsten~~ tantalum in the proportion of 13 to ~~40~~ 45 weight %,

wherein the alloy composition has a solidification temperature which is not less than 1300°C and not greater than 1400°C, and a solidification temperature range which is not greater than 20°C.

18. (Amended) An aluminum-free single crystal seed alloy composition consisting essentially of:

nickel; and,

tantalum in the proportion of 25 to 35 weight %,

wherein the alloy composition has a solidification temperature which is not less than 1300°C and not greater than 1400°C, and a solidification temperature range which is not greater than 20°C.

Periodic Table of the Elements

Period	Group Ia	Group IIa	Group IIIa	Group IVa	Group Va	Group VIA	Group VIIa	Group VIII	Group Ib	Group IIB	Group IIIB	Group IVB	Group VB	Group VIB	Group VIIB	Group O
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